

REMARKS

1. In response to the Office Action mailed September 15, 2008, Applicants respectfully request reconsideration. Claims 2, 3, 5, 8-16, 18, 19, and 21 were last presented for examination. In the outstanding Office Action, claims 2, 3, 5, 8-16, 18, 19, and 21 were rejected. By the foregoing Amendments, claims 8 and 21 have been amended. In light of the amendments to independent claims 8 and 21, claim 3 has been cancelled without prejudice or disclaimer. No new claims have been added, and no new matter has been added. Upon entry of this paper, claims 2, 5, 8-16, 18, 19, and 21 will be pending in this application. Of these fourteen (14) claims, 2 claims (claims 8 and 21) are independent.

Art of Record

2. Applicants acknowledge receipt of form PTO-892 listing additional references identified by the Examiner.
3. Applicants hereby submit an additional IDS with this response making additional references of record. Applicants respectfully request that the Examiner sign and return the PTO/SB08A & B forms to confirm the Examiner considered the references cited therein.

Priority Claim

4. Applicants note with appreciation the Examiner's acknowledgement of foreign priority under 35 U.S.C. §119.

Drawings

5. Applicants note with appreciation the Examiner's indicating that the drawings submitted on June 28, 2004 have been accepted.

Claim Amendments

6. Support for the foregoing amendments can be found in the originally filed claims, drawings and the specification at paragraphs [0031], [0033] and [0034]. No new matter has been added.

Claim Rejections under §103

7. Claims 2, 3, 5-16, 18, 19 and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,268,555 to Jones, *et al.* (hereinafter, “Jones”) in view of JP4099139164A in view of U.S. Patent No. 3,859,491 to Larson (hereinafter, “Larson”) in view of U.S. Patent No. 4,514,025 to Maulandi (hereinafter, “Maulandi”) in view of JP360166167A and further in view of U.S. Patent No. 5,595,670 to Mombo-Caristan (hereinafter, “Mombo-Caristan”).

The Proposed Combination Does not Contain All Elements of Applicant's Independent Claims 8 and 21

8. Even if the references were modified in the manner proposed in the Office Action, the resulting combination would still fail to contain all elements of the present invention as recited in independent claims 8 and 21, as amended above. Specifically, the proposed combination of references asserted in the Office Action still fails to teach or suggest at least the following: “starting welding by focusing said laser means on a point located proximate to a ***joint between one face of said plate and said surface of said copper body***; maintaining an ***angle of incidence*** of said laser means at values that are ***within a range from 5° to 20°*** with respect to the perpendicular to said surface of said copper body... and maintaining a quantity of ***molten material of said weld, which lies on a side that belongs to said copper body*** with respect to said joint, ***within a range that is equal to or greater than 70%***. (See, Applicants’ independent claims 8 and 21, as amended above; emphasis added.)

9. Firstly, the cited references, alone or in combination, fail to teach or suggest “starting welding by focusing said laser means on a point located proximate to a ***joint between one face of said plate and said surface of said copper body***” as recited in Applicants’ independent claims 8 and 21. (See, Applicants’ independent claims 8 and 21, as amended above; emphasis added.)

10. Secondly, the cited references fail to teach or suggest “maintaining an ***angle of incidence*** of said laser means at values that are ***within a range from 5° to 20°*** with respect to the perpendicular to said surface of said copper body” as recited by Applicants’ independent claims 8 and 21. (See, Applicants’ independent claims 8 and 21, as amended above; emphasis added.) The references merely suggest the use of an angled beam without specifying the range of values

for the angle of the laser beam. As such, according to the cited art relied upon in the Office Action, the laser beam might be kept at any angle, for example 3° or even 30°. To the contrary, Applicants' independent claims 8 and 21 specify a specific range (5° to 20°) that should be maintained in any welding condition according to embodiments of the present invention.

11. Thirdly, the cited references fail to teach or suggest “maintaining a quantity of *molten material of said weld, which lies on a side that belongs to said copper body* with respect to said joint, *within a range that is equal to or greater than 70%*” as recited in independent claims 8 and 21, as amended above (emphasis added). The molten material distribution of “greater than 70%” range in independent claims 8 and 21 is not a natural consequence of the materials being used and their associated properties, since in the cited art two surfaces of copper are superimposed and therefore a molten material distribution of approximately 50% would normally be expected from such a configuration. Furthermore, while the cited art may describe starting the welding where the mass of the welding member is large and also the use of copper-flashed silver plates, A lower molten material distribution (for example 55%) may be possible, and that maintaining 70% of molten material on the copper body side is therefore not described or suggested in the cited art. In fact, the range (greater than 70%) included in independent claims 8 and 21 is very specific, and not necessarily a natural or even an easy range to achieve.

12. In summary, the two ranges specified in the independent claims (angle of incidence from “5° to 20°” and molten material distribution “greater than 70%”) is not taught by the cited references or any other art of record, alone or in combination.

The Rejection of Claims 8 and 21 under 35 U.S.C. §103 is Prima Facie Improper

13. Furthermore, as noted previously, the Office Action has failed to provide a basis for combining Jones, JP4099139164A, Larson, Maulandi, JP360166167A and Mombo-Caristan. As recently stated by the Supreme Court, “a patent composed of several elements *is not proved obvious merely by* demonstrating that each of its elements was, independently known in the prior art.” (See *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007).) Moreover, the Supreme Court recognized in *KSR* that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some *articulated*

reasoning with some rational underpinning to support the legal conclusion of obviousness.”
(See KSR, 127 S.Ct. at 1741 (citing *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed. 2006).)

14. As noted previously, the Office Action merely provides a series of summaries for cited art as well as conclusory and unsupported statements to justify the proposed combination. For example, with reference to the angle of incidence range from 5° to 20° which is to be maintained according to Applicants’ independent claims 8 and 21, the Office Action merely states that “the use of an angle of incidence of 5-20 degrees during laser welding an aluminum plate to a copper body would have been obvious at the time applicant’s invention was made... because the angled beam can control porosity and push the melted spot forward.” (See, Office Action, pg. 3.) This statement in the Office Action is precisely the type of “mere conclusory statement” warned against in the recent case law noted above as well as in the MPEP. Furthermore, the Office Action fails to ascertain the differences between the alleged teaching of the cited art and the claimed invention, as required by MPEP 706.02(n), making the rejections difficult, if not impossible, to comprehend and address.

15. Because the Office Action has completely failed to provide any rational underpinning to justify the proposed combination, and since one of ordinary skill in the art would not have been motivated to combine the references as suggested in the Office Action, the proposed combination of Jones, JP4099139164A, Larson, Maulandi, JP360166167A and Mombo-Caristan is *prima facie* improper.

16. For at least the reasons noted above, the combination of references cited by the examiner fails to teach or suggest all of the claim elements of Applicants’ independent claims 8 and 21, making these rejections of those claims improper. Therefore, the combination of the cited references under 35 U.S.C. §103 is *prima facie* improper and the resulting combination fails to teach or suggest all elements of independent claims 8 or 21.

Dependent claims

17. The dependent claims incorporate all the subject matter of their respective independent claims and add additional subject matter which makes them independently patentable over the art of record. Accordingly, Applicants respectfully assert that the dependent claims are also allowable over the art of record.

Conclusion

18. In view of the foregoing, this application should be in condition for allowance. A notice to this effect is respectfully requested.

19. Applicants reserve the right to pursue any cancelled claims or other subject matter disclosed in this application in a continuation or divisional application. Any cancellations and amendments of above claims, therefore, are not to be construed as an admission regarding the patentability of any claims and Applicants reserve the right to pursue such claims in a continuation or divisional application.

20. In the event that the Examiner believes that an interview would serve to advance the prosecution of this application, the undersigned is available at the number noted below.

21. Please charge any fees due with this response to our Deposit Account No. 22-0185, under Order No. 22106-00060-US1 from which the undersigned is authorized to draw.

Dated: January 15, 2009

Respectfully submitted,

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